



## Addendum

### Attachment 1

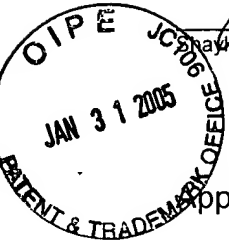
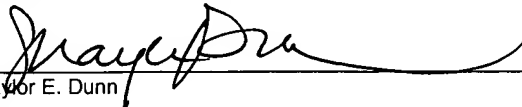
METHODS AND SYSTEMS FOR GENERATING AND SENDING MESSAGES IN A  
MOBILE COMMUNICATIONS NETWORK IN RESPONSE TO A CHANGE IN  
LOCATION OF A SUBSCRIBER

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PATENT

   
Shayor E. Dunn

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant : Allison et al. )  
 ) Group Art Unit: 2681  
Appln. No. : 09/649,461 )  
 ) Examiner: Sujatha R. Sharma  
Filed : August 25, 2000 )  
  
For: : METHODS AND SYSTEMS FOR GENERATING AND SENDING  
MESSAGES IN A MOBILE COMMUNICATIONS NETWORK IN  
RESPONSE TO A CHANGE IN LOCATION OF A SUBSCRIBER

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal pursuant to 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-36, 39-49, and 53-69 as set forth in the Office Action of March 30, 2004.

I. Real Party in Interest

The real party in interest is Tekelec, a California corporation, and the assignee of the inventors' entire interest.

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II. Related Appeals and Interferences

There are no appeals or interferences, known to applicants or applicants' legal representatives which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-36, 39-49, and 53-69 are pending in the subject application. Claims 37, 38, 50, and 51 have been canceled by Applicants. Claims 1-36, 39-49, and 53-69 stand finally rejected by the Office Action of March 30, 2004, and are the subject of this Appeal.

IV. Status of Amendments

An Amendment after Final Rejection and a Request for Continued Examination were filed on June 11, 2003. The Official Action dated July 28, 2003 indicated that the amendments were entered.

A second Amendment after Final Rejection was filed on September 30, 2004. The only amendment made was an amendment to claim 52 to correct an informality. The Advisory Action dated November 18, 2004 did not indicate that the amendment to claim 52 had not been entered. Accordingly, it is assumed for purposes of this appeal that the amendment to claim 52 has been entered.

V. Summary of Claimed Subject Matter

Independent claim 1 recites a method for automatically generating and sending a short message service (SMS) message (Figure 1, SHORT MESSAGE, page 23, lines 6-9) to a subscriber (Figure 1, handset **108**) in a mobile communications network in response to a change in location of the subscriber (Figure 1, handset **108**). The method includes receiving, at a telecommunications network element (Figure 1, STP **100**, page 6, lines 12-13), a plurality of mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE, page 12, lines 12-13). The method includes screening, at the telecommunications network element, (Figure 1, STP **100**), mobile call signaling messages exchanged between a home location register (HLR) (Figure 1, HLR **109**, page 8, lines 21-22) and a visitor location register (VLR) (Figure 1, VLR **116**, page 8, lines 24-25) that relate to changes in location of mobile subscribers. The screening functionality recited by step (b) in claim 1 is described in the flow chart of Figure 4A where MAP messages relating to changes in location of mobile subscribers are screened and forwarded to a message processing platform. The corresponding portion of the specification appears on page 15, line 19 through page 16, line 15.

Claim 1 further recites correlating the screened mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR (Figure 1, HLR **109**, page 8, lines 20-21) and the VLR (Figure 1, VLR **116**, page 8, lines 24-25) that relates to a change in location of a particular mobile subscriber. The

description of correlating the mobile call signaling messages in the dialogue between the HLR and the VLR that relate to a change in location of a particular mobile subscriber is illustrated in Figure 5 and is described in the specification on page 22, lines 13-21. The method further includes generating a change in location indication message (Figure 1, CHANGE IN LOCATION INDICATION, page 22, lines 21-23) based on the parameters extracted from the correlated mobile call signaling messages. The method further includes sending the change in location indication message (Figure 1, CHANGE IN LOCATION INDICATION) to a short message service center (Figure 1, SMSC **106**). The portion of the specification that recites that the change in location indication message is sent to the short message service center appears on page 22 at lines 21-23.

Claim 1 further recites, in response to receiving the change in location indication message by SMSC (Figure 1, SMSC **104**), generating an SMS message (Figure 1, SHORT MESSAGE) intended for the particular mobile subscriber (Figure 1, handset **108**). The portion of the specification that recites that the SMS message is generated in response to the change in location indication message appears on page 23 at line 6-9. The method further includes sending the SMS message (Figure 1, SHORT MESSAGE) to the mobile subscriber (Figure 1, handset **108**), and performing steps (a)-(g) automatically in response to a change in location of the particular mobile subscriber. The portion of the specification that recites automatically performing steps (a)-(g) in response to a change in location of the mobile subscriber appears throughout the specification, for example on page 4, lines 16-17, page 6, lines 4-6, and in the preamble of claim 1 as filed.

To summarize, claim 1 recites a method for generating a short message service message and sending the short message service message to a mobile subscriber automatically in response to a change in location of the mobile subscriber. The automatic method includes screening mobile call signaling messages exchanged in a dialogue between an HLR and a VLR that relate to a change in location of a particular mobile subscriber, generating a change in location indication message based on correlated mobile call signaling messages, sending the change in location message to an SMSC, and sending an SMS message from the SMSC to the mobile subscriber. The correlating of mobile call signaling messages transmitted between an HLR and a VLR that relate to a change in location of mobile subscriber eliminates the need for subscriber action to effect SMS message delivery. The fact that the SMS message is automatically generated provides an advantage over conventional SMS message delivery methods that require subscriber action for an SMS message to be sent or delivered. For example, SMS messages are typically not generated unless a subscriber creates an SMS message via his or her handset. SMS messages are not delivered without requiring that the sending subscriber send the message, the network locate the receiving subscriber, and the network deliver the SMS message to the receiving subscriber. The automatic correlation and delivery steps of claim 1 avoid the need for SMS message origination by a handset and provides a new method for locating the subscriber and delivering the SMS message to the receiving subscriber.

Independent claim 14 recites a method for automatically generating a short message service (SMS) message (Figure 1, SHORT MESSAGE) to a subscriber (Figure 1, handset 108) in a mobile communications network in response to a change in

location of the subscriber (Figure 1, handset **108**). The method includes receiving a plurality of mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) at a telecommunications network element (Figure 1, STP **100**). The step of receiving these messages is described, for example on page 15 at lines 2-3. The method includes screening, at the telecommunications network element (Figure 1, STP **100**), mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) exchanged between a home location register (Figure 1, HLR **109**) and a visitor location register (Figure 1, VLR **116**, that relate to changes in location of the mobile subscribers. The step of screening mobile call signaling messages exchanged between the home location register and a visitor location register that relate to changes in location of mobile subscribers is described, for example, on page 15, line 20 through page 16, line 3. In particular, the quoted portion of the specification indicates that targeted message types, such as, insert subscriber data, update location request, and update location response are identified.

The next step in claim 14 is correlating the screened mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) to identify mobile call signaling messages in a dialogue between the HLR (Figure 1, HLR **109**) and the VLR (Figure 1, VLR **116**) that relates to a change in location of a particular mobile subscriber (Figure 1, handset **108**). A description of correlating messages that relate to a change in location of a particular mobile subscriber, is found, for example on page 20 at lines 18-21. In particular, it is

indicated that the message correlator/generator **102A** creates individual mobile call location update records to store messages associated with a particular dialogue.

Claim 14 further recites combining parameters extracted from the mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) to generate an SMS message (Figure 1, SHORT MESSAGE) intended for the particular mobile subscriber (Figure 1, handset **108**). A description of generating the SMS message based on parameters extracted from the mobile call signaling messages is found, for example, page 22, line 24 through page 23, line 1. Claim 14 further recites sending an SMS message (Figure 1, SHORT MESSAGE) to the mobile subscriber (Figure 1, handset **108**) wherein performing steps (a)-(e) includes performing steps (a)-(e) automatically in response to a change in location of the particular mobile subscriber (Figure 1, handset **108**). A description of sending the SMS message to the mobile subscriber automatically is found, for example, on page 6 at lines 4-6 and in the preamble of claim 14 as originally filed.

Thus, to summarize, claim 14 recites the steps of receiving call signaling messages, screening mobile call signaling messages exchanged between an HLR and a VLR that relate to changes in location of mobile subscribers, correlating the mobile call signaling messages to identify mobile call signaling messages that relate to a change in location of a particular mobile subscriber, and combining parameters from the correlated mobile call signaling messages to generate an SMS message intended for the subscriber. The SMS message is sent to the mobile subscriber. The steps in Figure 14 are performing automatically in response to the change in location of the

mobile subscriber. Thus, claim 14 recites generating the SMS message without requiring the generation of the change in location indication message. Like claim 1, automatic SMS message generation and delivery avoids the need for a handset to originate the SMS message. The message screening and correlation steps provide a new method for location of a subscriber and delivery of an SMS message to the subscriber.

Independent claim 26 recites a method for correlating mobile call signaling messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) transmitted between a home location register (HLR) (Figure 1, HLR **109**) and a visitor location register (VLR) (Figure 1, VLR **116**) in response to a change in location of a mobile subscriber (Figure 1, handset **108**). The method includes receiving at a telecommunications network element (Figure 1, STP **100**) a plurality of mobile call signaling messages exchanged between a home location register (HLR) (Figure 1, HLR **109**) and a visitor location register (VLR) (Figure 1, VLR **116**). Receiving a plurality of mobile call signaling messages at STP **100** is described, for example, on page 15 at lines 2-3.

Claim 26 further recites screening, at the telecommunications network element, (Figure 1, STP **100**) from the mobile call signaling messages, messages that relate to changes in location of mobile subscribers (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE). Screening mobile call signaling messages that relate to changes in location of mobile subscribers is described, for example, on page 15 at lines 24 through page 16, line 4, where MAP message types are identified and copied.

Claim 26 further recites correlating the screened mobile call signaling messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) based on one or more parameters in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR (Figure 1, HLR **109**) and the VLR (Figure 1, VLR **116**) that relates to a change in location of a particular mobile subscriber (Figure 1, handset **108**). Correlating the mobile call signaling messages to identify messages that relate to a change in location of a particular mobile subscriber is described, for example, on page 20 at lines 12-16, where it is indicated that the dialogue ID in the TCAP portion of the message is used to correlate messages relating to the same dialogue between the HLR and the VLR.

Claim 26 further recites generating mobile call location update records based on the correlated mobile call signaling messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE), wherein performing steps (a)-(d) includes performing steps (a)-(d) automatically in response to a change in location of the particular mobile subscriber (Figure 1, handset **108**). The automatic generation of mobile call location update records is described, for example, on page 21, line 12 through page 22, line 21.

In summary, claim 26 recites automatic generation of a new type of record, referred to as a mobile call location update record, based on screened, correlated mobile call signaling messages transmitted between an HLR and a VLR. The generation of such records by screening and correlating messages transmitted between an HLR and a VLR occurs automatically when the subscriber changes location.

Independent claim 34 recites a system for automatically generating and sending a short message service (SMS) message (Figure 1, SHORT MESSAGE) to a subscriber (Figure 1, handset **108**) in a mobile communications network in response to a change in location of the subscriber. The system includes a telecommunications network element (Figure 1, STP **100**) for receiving a plurality of mobile call signaling messages and for screening mobile call signaling messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) exchanged between a home location register (HLR) (Figure 1, HLR **109**) and a visitor location register (VLR) (Figure 1, VLR **109**) relating to changes in location of mobile subscribers (Figure 1, handset **108**). The telecommunications network element that receives mobile call signaling messages between an HLR and a VLR is described, for example, on page 9, line 15 through page 14, line 15.

Claim 34 further recites a message processing platform (Figure 1, MPP **102**) operatively associated with a telecommunications network element (Figure 1, STP **100**) for receiving the screened mobile call signaling messages (Figure 1, COPIES), for correlating the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR (Figure 1, HLR **109**) and the VLR (Figure 1, VLR **116**) related to a change in location of a particular mobile subscriber (Figure 1, handset **108**) and for generating a change in location indication message (Figure 1, CHANGE IN LOCATION INDICATION) based on the correlated mobile call signaling messages. The operation of the message processing platform for correlating mobile call signaling messages relating to a change in location of a particular mobile subscriber is described, for example, on page 18 at lines 22-24 and page 20, lines 18-21.

Claim 34 further recites a short message service center (SMSC) (Figure 1, SMSC 104) for receiving the change in location indication message (Figure 1, CHANGE IN LOCATION INDICATION) and for generating an SMS message (Figure 1, SHORT MESSAGE) intended for the particular mobile subscriber (Figure 1, handset 108) wherein the telecommunications network element (Figure 1, STP 100), the message processing platform (Figure 1, MPP 102), and the short message service center (Figure 1, SMSC 104) are adapted to respectively perform the functions in elements (a)-(c) automatically in response to a change in location of a particular mobile subscriber (Figure 1, handset 108). Short message service center 104 receiving the change in location indication message and generating the corresponding SMS message is described, for example, page 23, lines 6-9. Performing the steps automatically is found, for example, in the preamble of original claim 34 and on page 4 at line 16-17.

In summary, claim 34 recites a system that includes a network element, a message processing platform, and a short message service center that cooperate to automatically screen messages, correlate the messages, generate a change in location indication message, and send a short message service message to a subscriber automatically in response to a change in location of the subscriber. Screening and correlating messages transmitted between an HLR and a VLR that relate to a change in location of a particular mobile subscriber provides a new method for determining when a subscriber has changed location so that a message can be delivered to the subscriber. Automatically generating the change in location indication message and sending the SMS message to the subscriber when the subscriber changes location eliminates the need for an originating handset to trigger SMS delivery and for terminating subscriber to

perform any action, such as dialing a telephone number, in order to receive the message.

Independent claim 45 recites a system for automatically generating and sending a short message service (SMS) message (Figure 1, SHORT MESSAGE) to a subscriber (Figure 1, handset **108**) in a mobile communications network in response to a change in location of the subscriber. The system includes a telecommunications network element (Figure 1, STP **100**) for receiving a plurality of mobile call signaling messages and for screening mobile call signaling messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) exchanged between a home location register (HLR) (Figure 1, HLR **109**) and a visitor location register (VLR) (Figure 1, VLR **116**) that relate to changes in location of mobile subscribers. Performing such screening at a telecommunications network element is described, for example, on page 14 at line 23 through page 15 at line 2.

Claim 45 further recites a message processing platform (Figure 1, MPP **102**) associated with a telecommunications network element (Figure 1, STP **100**) to identify mobile call signaling messages (Figure 1, UPDATE LOCATION REQUEST, INSERT SUBSCRIBER DATA, UPDATE LOCATION RESPONSE) in a dialogue between the HLR (Figure 1, HLR **109**) and the VLR (Figure 1, VLR **116**) related to a change in location of the particular mobile subscriber (Figure 1, handset **108**) and for generating a short message service (SMS) message (Figure 1, SHORT MESSAGE) intended for the particular mobile subscriber (Figure 1, handset **108**) based on the correlated messages, wherein the telecommunications network element (Figure 1, STP **100**) and the message

processing platform (Figure 1, MPP **102**) are adapted to respectively perform the functions in elements (a) and (b) automatically in response to a change in location of the particular mobile subscriber (Figure 1, handset **108**). The description of the correlation performed by the message processing platform is found, for example, on page 18 at lines 22-24 and on page 21, lines 18-21. A description of the STP and the message processing platform functioning automatically, is found, for example, in the preamble of independent claim 45 as originally filed and on page 4 at lines 16-17.

In summary, claim 45 recites a network element that screens mobile call signaling messages relating to a change in location of a particular mobile subscriber and a message processing platform that correlates screening mobile call signaling messages and generates an SMS message based on the correlated messages. A separate change in location indication message is not required. Further, the steps of screening the mobile call signaling messages, correlating the mobile call signaling messages, and generating SMS message are performed automatically in response to a change in location of a mobile subscriber. Performing such steps automatically eliminates the need for a handset to originate an SMS message. In addition, correlating the messages and automatically generating the SMS message eliminates the need for the message recipient to perform a specialized action, such as dialing predetermined digits, in order to receive the SMS message.

Independent claim 57 recites a system for generating a message (Figure 1, SHORT MESSAGE) in response to a change in location of a mobile subscriber (Figure 1, handset **108**). The system includes a telecommunications network signaling node (Figure 1, STP **100**) for receiving mobile call signaling messages and for screening

selected mobile application part (MAP) messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) exchanged between a home location register (Figure 1, HLR **109**) and a visitor location register (VLR) (Figure 1, VLR **116**) in response to changes in location of mobile subscribers. A telecommunications signaling node that screens signaling messages relating to changes in locations of mobile subscribers is described for example on page 11 at lines 23-25 of the present specification.

Claim 57 further recites a message processing platform (Figure 1, MPP **102**) operatively associated with the signaling node (Figure 1, STP **100**) for receiving the screened MAP messages (Figure 1, copies), correlating the screened MAP messages (Figure 1, copies) to identify MAP messages (Figure 1, INSERT SUBSCRIBER DATA, UPDATE LOCATION REQUEST, UPDATE LOCATION RESPONSE) in a dialogue between the HLR (Figure 1, HLR **109**) and the VLR (Figure 1, VLR **116**) for a change in location for a particular mobile subscriber (Figure 1, handset **108**) and generating a change in location indication message (Figure 1, change in location indication) based on the correlated MAP messages, wherein the telecommunications network element (Figure 1, STP **100**) and the message processing platform (Figure 1, MPP **102**) are adapted to respectively perform the functions in elements (a) and (b) automatically in response to a change in location of the particular mobile subscriber (Figure 1, handset **108**). A message processing platform that correlates messages relating to a change in location of a particular mobile subscriber and generates a change in location indication message is described, for example, on page 18 at lines 21-24 of the present specification. Performing the recited functions automatically in response to a change in

location of the mobile subscriber is described, for example, on page 4, lines 16-17 and in the preamble of claim 45 as originally filed.

VI. Grounds of Rejection to be Reviewed on Appeal

The grounds for rejection for review are:

- (1) The rejection of claims 1, 2-4, 7, 8, 12-17, 20, 21, 25-27, 32, 34-36, 39, 40, 45-49, and 55-69 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,622,016 to Sladek (hereinafter, "Sladek");
- (2) The rejection of claims 5, 6, 9, 11, 18, 19, 22, 24, 41-44, 53, and 54 under 35 U.S.C. § 103(a) as unpatentable over Sladek in view of U.S. Patent No. 6,505,046 to Baker (hereinafter, "Baker");
- (3) The rejection of claims 10, 23, and 28-31 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,622,016 to Sladek in view of German Patent No. DE 19805261A to Jung (hereinafter, "Jung"); and
- (4) The rejection of claim 33 under 35 U.S.C. § 103(a) as unpatentable over Sladek in view of European Patent Publication No. EP 710043A1 to Brown (hereinafter, "Brown").

VII. Arguments

- A. Rejection of claims 1, 2-4, 7, 8, 12-17, 20, 21, 25-27, 32, 34-36, 39, 40, 45-49, and 55-69 Under 35 U.S.C. § 102(b) as anticipated by Sladek

i. Argument for independent claim 1

Claim 1 is patentable over Sladek because Sladek fails to disclose, teach, or suggest (1) receiving a plurality of mobile call signaling messages and screening mobile call signaling messages exchanged between an HLR and a VLR that relate to changes in location of mobile subscribers, (2) correlating screened call signaling messages based on at least one parameter in the call signaling messages to identify call signaling messages in a dialogue between an HLR and a VLR that relate to a change in location of a particular mobile subscriber, (3) generating the change in location indication message based on parameters extracted from the call signaling messages, (4) sending the location indication message through a short message service center, (5) generating an SMS message based on the location indication message, or (6) performing such steps automatically. As a preliminary matter, rather than being directed to automatic SMS message generation, Sladek is directed to methods for altering a provisioned set of services assigned to a subscriber. (See column 1, lines 1-16 of Sladek). In other words, Sladek discloses ways to allow subscribers add or change telecommunications services, such as call forwarding or voicemail services, by changing provisioning information associated with the services. In contrast, claim 1 recites a method for automatically generating and sending an SMS message to a subscriber in response to a change in location of the subscriber. Sladek mentions a change in location of a subscriber as a stimulus (see column 24, line 8 of Sladek) but only for updating the subscriber's stored service profile. There is no mention in Sladek of generating or sending any messages to a subscriber automatically. Accordingly, for this reason alone, the rejection of claim 1 as anticipated by Sladek should be withdrawn.

With regard to message screening, claim 1 recites that a plurality of mobile call signaling messages are received at a telecommunications network element and messages relating to changes in location of a mobile subscriber are screened. As illustrated in step **ST9** of Figure 4A of the present application, targeted MAP message types are identified and copied to a message processing platform. Messages that are not identified as the targeted type are routed. Screening such signaling messages eliminates the need for triggers in the originating or terminating networks for SMS message generation. There is absolutely no disclosure, teaching or suggestion in Sladek of screening messages transmitted between an HLR and a VLR that relate to a change in location of a subscriber. As stated above, Sladek is directed to methods for altering the provisioned set of services to which a subscriber is entitled. With regard to how this modification is performed, Sladek states:

When a subscriber is located in a serving system, the serving system needs to know what services the subscriber is authorized to use and who to build for those services to the subscriber. To obtain this information, the subscriber's HLR will provide the serving system with a current service profile for the subscriber, which the serving system will store in its VLR for reference. (See column 14, lines 31-37 of Sladek.)

From this passage, Sladek indicates that the serving system queries the subscriber's HLR to determine the services to which the subscriber is entitled. There is absolutely no teaching or suggestion of screening messages transmitted between an HLR and a VLR.

Nonetheless, on page 2 of the Official Action dated March 30, 2004, the Examiner indicates that the summary of the invention, column 13, line 54, column 6, line 30, and column 14, line 57 through column 15, line 5 of Sladek disclose screening, at a

telecommunications network element, call signaling messages exchange between an HLR and a VLR. Each of these sections of Sladek will now be discussed in detail.

The summary of the invention of Sladek describes in general a method by which a subscriber's base set of services can be modified. For example, the summary of the invention states:

In accordance with a principal aspect of the invention, a service overlay for a subscriber is provided in response to a designated stimulus by effecting a modification of the subscriber's profile, so as to include as part of the profile on or more desired parameters that facilitate providing one or more desired services. (See column 6, lines 23-28 of Sladek.)

The above-quoted passage mentions that the goal of Sladek is to change a subscriber's service profile. In order to effect such a goal, Sladek discloses that an origination trigger may be used to cause the system to query an HLR in response to a digit sequence dialed by the subscriber. (See column 6, lines 51-54 of Sladek.) In other words, Sladek requires that the screening be performed based on the dialed digits at the end office rather than based on messages exchanged between an HLR and a VLR when a subscriber changes location. Accordingly, the summary of the invention of Sladek fails to disclose screening messages transmitted between an HLR and a VLR that relate to changes in location of mobile subscribers as claimed.

Column 13, line 54 of Sladek states, "BSC 116 is in turn coupled by a standard IS-634 interface with a MSC 118, which serves to collect calls between various points in the network 110." This portion of Sladek and the remainder of the paragraph describe the general configuration of a mobile telecommunications network. There is absolutely

no teaching or suggestion of screening messages transmitted between an HLR and a VLR at a telecommunications network element.

Column 6, line 30 of Sladek states:

One such parameter, for instance, may be a trigger and/or a trigger address that causes the serving system to consult a designated network entity (for instance, an SCP, an HLR, an SN (e.g., with an interactive voice response unit ("IVRU"), or a PBX/CTI) for call processing instructions, or that causes the serving system to otherwise responsively communicate with such a designated network entity. (See column 6, lines 28-34 of Sladek.)

The above-quoted passage, the like the passage from the summary of the invention described above, indicates that Sladek effects a change in the subscriber's stored profile by requiring a serving system initiated trigger. In contrast, claim 1 recites screening messages transmitted between an HLR and a VLR at a telecommunications network element. Thus, column 6, line 30 of Sladek fails to disclose message screening as claimed.

Column 14, line 57 through column 15, line 5 of Sladek states as follows:

As an example, when mobile station **112** is first turned on (powered up) in or enters serving system **138** (even if the serving system is the subscriber's home system), equipment in the serving system detects the mobile station (identified by its MSID and/or ESN, for instance). The serving system then determines the network address (e.g., SS7 "point code") of the subscriber's HLR **134**, typically by reference to a local table (based on inter-system roaming agreements or other information). Provided with the address of HLR **134**, the serving system then sends a registration notification (REGNOT) message, via link **130**, STP **128** and link **136** to HLR **134**, typically as payload in a TCAP message. Alternatively, if applicable, the serving system may simply send a REGNOT message to an HLR associated with the serving system, and the HLR can identify the subscriber's HLR and forward the REGNOT to that HLR. (See column 14, line 57 through column 15, line 5 of Sladek.)

The above-quoted portion of Sladek indicates that the serving system sends a registration notification (REGNOT) message to an HLR when a subscriber activates his or her phone in an area served by the serving system. The REGNOT message notifies the HLR of a subscriber's location. Nothing about this passage teaches screening mobile call signaling messages transmitted between an HLR and a VLR at a telecommunications network element. In fact, no network elements are mentioned in the above-quoted passage, other than the HLR. Accordingly, this portion of Sladek fails to disclose, teach, or suggest message screening as claimed.

Because the portions of Sladek cited by the Examiner fail to disclose message screening as claimed, for this reason alone, the rejection of claim 1 as anticipated by Sladek should be reversed.

In column 21, Sladek discusses "interception of service qualification messages by interjecting the SCP as a "message mediator" between the HLR and the serving system." (See column 21, lines 1-3 of Sladek.) However, like the examples described above, Sladek requires that the serving system be programmed to send messages to the SCP, rather than to the HLR. For example, Sladek states:

Using this or any other suitable process, MSC **118** can be programmed to send all REGNOT, QUALREQ, LOCREQ, and/or other service invoke messages to SCP **144** for instance, rather than conventionally to HLR **134**, to facilitate the desired message mediation function. (See column 21, lines 37-42 of Sladek.)

Requiring that the serving system send the invoke messages to the SCP is not receiving messages transmitted between an HLR and a VLR and screening messages relating to a change in location of a mobile subscriber as claimed. Clauses (a) and (b)

of claim 1 require that plurality of messages be received at a telecommunications network element and that certain messages be screened, i.e., separated from the other messages. Claim 1 also requires that the messages be exchanged between the HLR and the VLR. According to Sladek, the SCP only receives messages that the serving system addresses explicitly to the SCP. Such messages are not screened because they are the only messages sent to the SCP. Moreover, such messages are not transmitted between an HLR and a VLR because the serving system sends them to the SCP, rather than to the HLR. Accordingly, even though Sladek describes the SCP as performing a mediation function, the SCP is not a telecommunications network element that receives a plurality of mobile call signaling messages and screens mobile call signaling messages exchanged between a home location register and a visitor location register that relate to changes in location of mobile subscribers as claimed. Thus, for this additional reason, Sladek fails to disclose message screening as claimed.

With regard to message correlation, claim 1 recites correlating screened mobile call signaling messages based on a parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber. As illustrated in Figure 1 of the present application, the mobile call signaling messages that are screened and correlated include the change in location indication message, the update location request message, and the update location response message. Sladek does not even mention the word "correlate," not to mention correlating messages that relate to a change in location of a mobile subscriber. Nonetheless, on page 3 of the final Official Action dated March 30, 2004, the Examiner indicated that the summary of the invention,

column 13, line 54, column 6, line 30, and column 15, line 5 of Sladek disclose this feature. None of these passages discloses, teaches or suggests correlating mobile call signaling messages that relate to a change in location of a particular subscriber. Each of these passages will now be discussed individually.

The summary of the invention section of Sladek does not mention any messages transmitted between an HLR and a VLR or correlating messages transmitted between an HLR and a VLR that relate to a change in location of a subscriber. Instead, the summary of the invention of Sladek discusses providing additional services to a subscriber by updating the subscriber's stored service profile. For example, Sladek states:

In accordance with a principal aspect of the invention, a service overlay for a subscriber is provided in response to a designated stimulus by effecting a modification of the subscriber's profile, so as to include as part of the profile one or more desired parameters that facilitate the providing of one or more desired services. (See column 6, lines 23-28 of Sladek.)

The above-quoted passage from Sladek mentions updating a subscriber's stored service profile. Nothing about this passage or any other passage in the summary of the invention section of Sladek discloses, teaches, or suggests correlating mobile call signaling messages that relate to a change in location of a particular mobile subscriber as claimed.

Column 13, line 54 of Sladek states as follows:

In either case, the HLR will typically provide the serving system with a service qualification message that describes the subscriber's profile as well as other parameters such as a time period after which the message must be requalified.

The above-quoted passage from Sladek indicates that a service qualification message is transmitted from the HLR to the serving system to define the subscriber's profile to the serving system. Because a single message is discussed, there can be no message correlation as claimed.

Column 6, line 30 of Sladek states as follows:

One such parameter, for instance may be a trigger and/or a trigger address that causes a serving system to consult a designated network entity (for instance, an SCP, an HLR, an SN (e.g., with an interactive voice response unit) "IVRU"), or a PBX/CTI) for the call processing instructions, or that causes the serving system to otherwise responsively communicate with such a designated network entity.

The above-quoted passage from Sladek merely indicates that a trigger may be provided with the serving system to instruct the serving system to consult another entity to determine the features to which a subscriber is entitled. There is absolutely no mention of any messages transmitted between an HLR and a VLR or correlating such messages.

Column 14, line 57 through column 15, line 5 of Sladek state as follows:

As an example, when mobile station **112** is first turned on (powered up) in or enters serving system **138** (even if the serving system is the subscriber's home system), equipment in the serving system detects the mobile station (identified by its MSID and/or ESN, for instance). The serving system then determines the network address (e.g., SS7 "point code") of the subscriber's HLR **134**, typically by reference to a local table (based on inter-system roaming agreements or other information). Provided with the address of HLR **134**, the serving system then sends a registration notification (REGNOT) message, via link **130**, STP **128** and link **136**, to HLR **134**, typically as payload in a TCAP message. Alternatively, if applicable, the serving system may simply send a REGNOT message to an HLR associated with the serving system, and the HLR can identify the subscriber's HLR and forward the REGNOT to that HLR.

The above-quoted passage from Sladek mentions a REGNOT message that is transmitted from the serving system to the subscriber's HLR when the subscriber activates his or her phone. There is no mention of correlating this message with any other messages. Because only a single message is mentioned, there can be no message correlation.

Thus, for the reasons stated above, it is respectfully submitted that Sladek fails to disclose, teach, or suggest correlating messages transmitted between an HLR and a VLR as recited in step (c) of claim 1.

Steps (d) and (e) of claim 1 recite generating a change in location indication message based on parameters extracted from the correlated mobile call signaling messages and sending the change in location indication message to a short message service center (SMSC). As stated above, Sladek fails to disclose correlating any messages transmitted between an HLR and a VLR. Accordingly, Sladek cannot disclose generating a message based on parameters extracted from the correlated messages. In addition, Sladek fails to disclose sending any messages to an SMSC, not to mention a change in location indication message. Nonetheless, on page 3 of the Official Action dated March 30, 2004, the Examiner indicates that column 16, lines 17-24, column 8, lines 11-42, the summary of the invention, column 14, line 57 through column 15, line 18, column 16, lines 26-29, and column 17, line 29 through column 18, line 10 of Sladek disclose this feature.

As stated above, the summary of the invention of Sladek does not mention correlating any messages and therefore cannot possibly disclose generating a message based on correlated messages. Instead, the summary of the invention of Sladek is

directed to ways to change a subscriber's stored service profile so that the subscriber can receive different services.

Column 14, line 57 through column 15, line 18 of Sladek state as follows:

As an example, when mobile station **112** is first turned on (powered up) in or enters serving system **138** (even if the serving system is the subscriber's home system), equipment in the serving system detects the mobile station (identified by its MSID and/or ESN, for instance). The serving system then determines the network address (e.g., SS7 "point code") of the subscriber's HLR **134**, typically by reference to a local table (based on inter-system roaming agreements or other information). Provided with the address of HLR **134**, the serving system then sends a registration notification (REGNOT) message, via link **130**, STP **128** and link **136**, to HLR **134**, typically as payload in a TCAP message. Alternatively, if applicable, the serving system may simply send a REGNOT message to an HLR associated with the serving system, and the HLR can identify the subscriber's HLR and forward the REGNOT to that HLR.

The REGNOT message serves to notify the HLR of the subscriber's location, which is important information for the HLR, to allow the HLR to properly direct calls and other services (e.g., messages) to the subscriber. (For instance, when a serving system receives a call for a subscriber, if the serving system does not have a record of the subscriber in its VLR or if otherwise desired, the serving system might be arranged to send a location request (LOCREQ) message to the subscriber's HLR, and the HLR may then respond by providing the location of the subscriber. In turn, the serving system may set up and connect the call to the designated location.) In addition, the REGNOT message serves as a request for service qualification.

The above-quoted passage mentions two messages -- a registration notification (REGNOT) message and a location request (LOCREQ) message. According to Sladek, the REGNOT message is sent to the subscriber's HLR. There is absolutely no teaching or suggestion of sending this message or any other message to an SMSC. The LOCREQ message is also sent to the HLR. There is no disclosure of sending any messages to the SMSC. Accordingly, the above-quoted passage fails to disclose

generating a change in location indication message and sending that message to an SMSC.

Column 16, lines 26-29 of Sladek state as follows:

“SMS\_OriginationRestrictions” and “SMS\_TerminationRestrictions”, which define the type of short text messages that the subscriber is allowed to send or receive.

The above-quoted passage from Sladek describes part of the subscriber's profile that is stored in the HLR that defines text messages that the subscriber is allowed to send or receive. Nothing about this passage suggests sending anything to the SMSC.

Column 17, line 29 through column 18, line 10 of Sladek state as follows:

As another example, a business or other entity can provision service overlay logic or other enhanced service logic for a subscriber or group of subscribers by employing an embedded service provisioning system. In particular, a set of provisioning logic for provisioning an SCP or other network entity is embedded within a business system that is otherwise unrelated to the provisioning of communications services. For example, a hotel guest-registration system may be arranged to receive information about a guest so as to facilitate check-in at the hotel. The registration system may be configured to further communicate with a network entity so as to provision special communication services for the guest. The registration system may, for instance, automatically call a provisioning subroutine that transmits overlay service logic information or other service logic information to an SCP, so as to provision special services for the guest's mobile station or for a mobile station being loaned or rented to the guest. When executed by the SCP, the logic may then cause the SCP to effect a modification of the subscriber's profile so as to provide the subscriber with a special service overlay associated with the hotel (for instance, to direct unanswered calls to the hotel's voice mail system). In turn, the logic may cause the SCP to effect another modification of the subscriber's profile in response to a designated stimulus such as the date and time that the guest is scheduled to or does check-out of the hotel.

A still another example, enhanced subscriber services such as overlay logic can be provisioned into a central control point or other entity through an Internet connection via the Worldwide Web or the like. For

instance (and without limitation), a subscriber station may be arranged as Wireless Access Protocol ("WAP") client with respect to a WAP server on the Internet. As an example, then, the WAP server may provide for display at the subscriber station a form that the subscriber can fill in, in order to provide various service provisioning data (e.g., desired overlay logic, or other desired logic). The WAP server, the subscriber station, or another entity in the network may then convert the provisioning data into a format suitable for loading onto and application by a central control point for instance, and the formatted data can be loaded onto the central control point, to be subsequently applied for the subscriber. In this way, a subscriber at a WAP-enabled station can provision telecommunications services for the WAP-enabled station. For instance, if a mobile subscriber wants to automatically turn on voice-mail service on a given date and turn off voice-mail service on another given date, the subscriber may provision such service overlay logic through the contemplated WAP-based provisioning arrangement.

The above-quoted passage mentions two ways that a subscriber's service profile can be modified -- one by a hotel registration system and another by a WAP client. Nothing in this passage relates to generating a change in location indication message or sending such a message to an SMSC.

On page 3 of the Official Action dated March 30, 2004, it is indicated that column 3, line 61 through column 4, line 31 and column 5, lines 12-58 of Sladek disclose generating the change in location indication message and sending the SMS message to the mobile subscriber. Column 3, line 61 through column 4, line 31 of Sladek describe the general operation of wireless and wireline networks. There is no mention of a change in location indication message, sending such a message to a short message service center, or sending a message from the short message service center to the mobile subscriber. Column 5, lines 12-58 of Sladek discuss new services that can be provided to mobile telecommunications subscribers. One such service is referred to as a "closest facility" service where a subscriber dials a special phone number, selects a

type of facility, and the wireless carrier tells the subscriber where the closest facility of that type is located. The second type of service mentioned is offering different services for a subscriber depending on the zone in which the subscriber is located. The final portion of this passage in Sladek mentions that a central control point programmed with alternative sets of service logic may control the services to which a subscriber is entitled depending on where the subscriber is located. Even though these passages mention providing different services to a subscriber based on the subscriber's location, none of these passages teach or even remotely suggest generating a change in location indication message, sending the change in location indication message to an SMSC, or sending an SMS message from the SMSC to the subscriber.

Yet another reason that the rejection of claim 1 as anticipated by Sladek should be reversed is that the Official Action completely ignores that claim 1 recites that the steps are performed automatically in response to a change in location of a subscriber. The "wherein" clause of claim 1 is not mentioned in the Official Action dated March 30, 2004. Accordingly, for this reason alone, the rejection of claim 1 as anticipated by Sladek should be reversed.

Further, as stated above, the only action that is automatically performed according to the disclosure of Sladek is the updating of a subscriber's stored service profile. As stated above, Sladek mentions that a change in location is one of the events that can trigger the update of a subscriber's profile (see column 24, line 7 of Sladek.) However, there is no mention of automatically performing any steps, other than updating the subscriber's profile in Sladek.

The only example of sending a message to the subscriber appears in column 29 at lines 26-50 of Sladek. In this portion of Sladek, when a subscriber moves to a new zone, the SCP modifies a subscriber's profile to include an all digits trigger pointing to an SCP. Thereafter, when the subscriber places a call, the SCP may deliver voicemail or text messages to the subscriber. Requiring the subscriber to place a call in order to receive a text message is not automatically generating and sending an SMS message to the subscriber as claimed. Therefore, for this additional reason, the rejection of claim 1 as anticipated by Sladek should be reversed.

In the Advisory Action dated November 18, 2004, the Examiner indicated that column 14, line 11 through column 15, line 9 of Sladek disclose a method of correlating messages transmitted between an HLR and a VLR and sending an SMS message automatically in response to a change in location. The only message mentioned in column 14, line 9 through column 15, line 11 of Sladek is the REGNOT message. Sladek simply states that the REGNOT message is sent to the HLR to notify the HLR of the subscriber's location. Sladek further states that the REGNOT message includes important information for the HLR to allow the HLR to properly direct calls or other services (e.g., messages to the subscriber). What is absent from Sladek is the correlation of the REGNOT message with other messages or the sending of any messages to the SMSC. Sending the REGNOT message to the HLR does not trigger anything. It merely provides the location information that allows other network elements to contact the subscriber. In general, in order to deliver a short message service message, the sending entity must query the HLR to determine the location and availability of the subscriber. The HLR responds with the address and availability

information, and the sending entity, such as an SMSC, forwards the SMS message to the destination. Nothing about the REGNOT message disclosed in Sladek, discloses, teaches, or suggests automatically generating an SMS message based on a change in location.

Accordingly, for all these reasons, it is respectfully submitted that the rejection of claim 1 as anticipated by Sladek should be reversed.

ii. Argument for dependent claims 2, 4-7, 8, 12, 13, 60, and 64

Claims 2, 4-7, 8, 12, 13, 60, and 64 depend from and further limit claim 1. Accordingly, it is respectfully submitted that the rejection of these claims as anticipated by Sladek should be reversed for the reasons stated above with regard to claim 1.

Moreover, claim 60 is additionally patentable over Sladek because claim 60 recites that the telecommunications network element comprises a signal transfer point. In other words, according to claim 60, the signal transfer point is the node that receives and screens the mobile call signaling messages. According to Sladek, the only function performed by the signal transfer point is message routing. For example, Sladek states, "STP network 128 routes signaling messages, such as IS-41 mobile application part ("MAP") and ISUP call signaling messages between various entities in network 110." (See column 14, lines 2-5 of Sladek.) There is absolutely no mention of an STP that receives, screens, and routes mobile call signaling messages transmitted between an HLR and a VLR relating to a change in location of a mobile subscriber as claimed. Thus, for this additional reason, it is respectfully submitted that the rejection of claim 60 as anticipated by Sladek should be reversed.

Claim 64 depends from claim 1 and is additionally patentable over Sladek because claim 64 recites that the message correlating step includes correlating a MAP update location request, a MAP update location response, and a MAP insert subscriber data message that relate to a change in location of a subscriber. As stated above, Sladek does not disclose any message correlation. The only messages mentioned in the portion of Sladek cited by the Examiner are the REGNOT and the LOCREQ messages. Sladek states that REGNOT message is sent to an HLR to register a subscriber, and the LOCREQ message is sent to the HLR to obtain the subscriber's location (see column 15, lines 2-18 of Sladek). There is no disclosure of correlating any messages, not to mention the messages claimed in claim 64. Accordingly, for this additional reason, the rejection of claim 64 as anticipated by Sladek should be reversed.

iii. Argument for independent claim 14

The rejection of independent claim 14 as anticipated by Sladek should be reversed because Sladek fails to disclose (1) at a telecommunications network element, receiving a plurality of mobile call signaling messages and screening messages transmitted between an HLR and a VLR that relate to changes in location of mobile subscribers, (2) correlating screened mobile call signaling messages to identify mobile call signaling messages in a dialogue between an HLR and a VLR that relate to a change in location of a subscriber, (3) combining parameters extracted from the mobile call signaling messages to generate an SMS message intended for the mobile subscriber, (4) sending the SMS message to the mobile subscriber or (5) performing such steps automatically in response to a change in location of the mobile subscriber.

With regard to message screening, as stated above with regard to claim 1, the portions of Sladek cited by the Examiner as disclosing message screening require that the serving system query the HLR or an SCP in order to determine the services to which a visiting a subscriber is entitled. There is no disclosure of any network element that screens messages transmitted between an HLR and a VLR that relate to a change in location of a subscriber. Accordingly, for the same reasons stated above, Sladek fails to disclose message screening as claimed.

With regard to message correlation, as stated above with regard to claim 1, Sladek fails to disclose correlating any messages, not to mention messages transmitted between an HLR and a VLR in response to a change in location of a particular mobile subscriber. The only messages mentioned by Sladek in the portion cited by the Examiner against this claim element are the REGNOT and LOCREQ messages. Sladek simply states that these messages are sent to HLRs. The messages are treated in isolation and not correlated with each other or with any other messages.

In addition, claim 14 recites combining parameters extracted from correlated mobile call signaling messages to generate an SMS message. In the Official Action dated March 30, 2004, the Examiner fails to indicate any portion of Sladek that discloses "combining SMS messages extracted from the correlated mobile call signaling messages." Accordingly, for this reason alone, the rejection of claim 14 as anticipated by Sladek should be reversed. In addition, as stated above, Sladek fails to disclose correlating any messages. Accordingly, Sladek cannot disclose extracting parameters from correlated messages or generating an SMS message from the correlated parameters.

With regard to the step of automatically performing the screening, correlation, combining, and sending steps, Sladek discloses only a single example where message is delivered to a subscriber, and this example requires the subscriber to place a call. (See column 29, lines 35-41 of Sladek.) Requiring the subscriber to place a call is not automatic SMS message generation as claimed in claim 14.

Accordingly, for these reasons, it is respectfully submitted that the rejection of claim 14 as anticipated by Sladek should be reversed.

iv. Argument for dependent claims 15-25, 61, and 65

Claims 15-25, 61, and 65 depend from and further limit claim 14. Accordingly, for the same reasons stated above with regard to claim 14, it is respectfully submitted that the rejection of these claims should be reversed.

In addition, claim 61 is additionally patentable over Sladek because claim 61 recites that the telecommunications network element comprises a signal transfer point. As stated above, the only function disclosed in Sladek that is performed by a signal transfer point is message routing. Claim 61, when read with claim 14, indicates that the signal transfer point receives call signaling messages, routes call signaling messages to their intended destinations, and screens call signaling messages related to a change in location of a subscriber. Sladek discloses the conventional function of a signal transfer point, i.e., message routing. Accordingly, for this additional reason, the rejection of claim 61 as anticipated by Sladek should be reversed.

Claim 65 is additionally patentable over Sladek because Sladek fails to disclose, teach, or suggest correlating the mobile call signaling messages to identify a MAP

update location request, a MAP insert subscriber data message, and a MAP update location response message that relate to a change in location of the particular mobile subscriber. As stated above, Sladek does not disclose any message correlation. The only messages mentioned in Sladek in the portions of Sladek cited by the Examiner as disclosing message correlation are the REGNOT and LOCREQ messages. These messages are treated in isolation and not correlated with each other or with any other messages. Thus, for this additional reason, the rejection of claim 65 as anticipated by Sladek should be reversed.

v. Argument for independent claim 26

The rejection of independent claim 26 should be reversed because there is no disclosure, teaching, or suggesting in Sladek of (1) at a telecommunications network element, receiving mobile call signaling messages and screening mobile call signaling messages transmitted between an HLR and a VLR that relate to changes in location of mobile subscribers, (2) correlating screened mobile call signaling messages based on one or more parameters in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between an HLR and a VLR that relate to a change in location of a particular mobile subscriber, (3) generating mobile call location update records based on the correlated mobile call signaling messages, or (4) performing the steps automatically in response to a change in location of the subscriber.

With regard to message screening, Sladek indicates that the serving system queries the HLR or an SCP to determine the services to which a visiting subscriber is entitled. (See e.g., column 26, line 17-22 of Sladek.) Thus, Sladek requires an end

office trigger in order to deliver the advanced services to the subscriber. In contrast, claim 26 recites receiving and screening messages transmitted between an HLR and a VLR at a telecommunications network element. Sladek does not disclose screening any messages, not to mention screening messages at a telecommunications network element. Accordingly, Sladek fails to disclose message screening as claimed.

With regard to message correlation, Sladek does not disclose any message correlation, not to mention correlating messages relating to a change in location of a particular mobile subscriber. The only messages mentioned by Sladek and the portions quoted by the Examiner as disclosing message correlation are the REGNOT and the LOCREQ messages. Other messages mentioned in Sladek are the QUALREC, and the QUALDIR message. None of these messages are correlated with each other or with any other messages. For example, Sladek states that the REGNOT message is used to notify the HLR of the subscriber's location (see column 15, lines 6-7 of Sladek), the LOCREQ message is used by the serving system to query the subscriber's HLR (see column 15, lines 14-15 of Sladek), the QUALREC message is used by the serving system to update local service qualification for a subscriber (see column 15, lines 30-35 of Sladek), and the QUALDIR message is used by the HLR to send an updated profile to the serving system (see column 15, lines 41-50 of Sladek.) Each of these messages is treated in isolation by Sladek. None of the messages are correlated with each other, with other messages, or used to generate a mobile call location update record as claimed in claim 26. Accordingly, it is respectfully submitted that the rejection of claim 26 as anticipated by Sladek should be reversed.

vi. Argument for dependent claims 27, 32, 62, and 66

Claims 27, 32, 62, and 66 depend from and further limit claim 26. Accordingly, for the same reasons stated above with regard to claim 26, it is respectfully submitted that the rejection of these claims as anticipated by Sladek should be reversed.

Moreover, the rejection of claim 62 as anticipated by Sladek should also be reversed because claim 62 recites that the telecommunications network element comprises a signal transfer point (STP). In other words, claim 62 when read with claim 26 indicates that the telecommunications network element that receives and screens the mobile call signaling messages comprises an STP. As stated above, the only function performed by the STP in Sladek is message routing (See column 14, lines 2-5 of Sladek). Thus, for this additional reason, the rejection of claim 62 as anticipated by Sladek should be reversed.

Claim 66, which depends from claim 26, recites that the mobile call signaling messages that are correlated include a MAP update location request message, a MAP insert subscriber data message, and a MAP update location response message. Sladek does not disclose correlating any messages, not to mention correlating the specific messages recited in claim 66. As stated above, Sladek mentions the REGNOT, QUALREQ, and QUALDIR messages. None of these messages are correlated with each other or with any other messages. Accordingly, for this additional reason, the rejection of claim 66 as anticipated by Sladek should be reversed.

vii. Argument for independent claim 34

The rejection of independent claim 34 as anticipated by Sladek should be reversed because Sladek fails to disclose, teach, or suggest (1) a telecommunications network element that receives a plurality of mobile call signaling messages and screens mobile call signaling messages exchanged between an HLR and a VLR relating to changes in location of mobile subscribers, (2) a message processing platform operatively associated with a telecommunications network element that receives screened mobile call signaling messages from the network element, correlates the messages to identify call signaling messages in a dialogue between the HLR and the VLR relating to a change in location of a particular mobile subscriber, and generates a change in location indication message based on the mobile call signaling messages, (3) a short message service center for receiving the change in location indication message from the message processing platform and generating an SMS message intended for the particular subscriber, or (4) the fact that the telecommunications network element, the message processing platform, and the short message service center perform their respective functions automatically in response to a change in location of a particular subscriber.

With regard to a telecommunications network element that screens messages transmitted between an HLR and a VLR, as stated above, Sladek requires that the serving system query an HLR or an SCP to determine the services to which a subscriber is entitled. There is no mention of a network element, not to mention a network element that screens telecommunications signaling messages transmitted between an HLR and a VLR relating to changes in location of mobile subscribers. By

definition, the telecommunications network element is separate from the HLR and the VLR. Accordingly, Sladek fails to disclose a telecommunications network element that screens mobile call signaling messages transmitted between an HLR and a VLR as claimed.

With regard to the message processing platform that correlates screened mobile call signaling messages, as stated above, Sladek does not disclose correlation of any messages, not to mention messages transmitted between an HLR and a VLR relating to a change in location of a particular mobile subscriber. The only messages disclosed in Sladek in the portion of Sladek cited by the Examiner with regard to message correlation are the REGNOT and LOCREQ messages. Sladek states that the REGNOT message is sent to the subscriber's HLR to update the subscriber's location in the HLR (see column 15, line 6 of Sladek) and that the LOCREQ message is sent by the serving system to the subscriber's HLR to obtain the location of the subscriber (see column 15, lines 12-15 of Sladek). There is no disclosure that these messages are correlated with any other messages or with each other. Accordingly, for this reason alone, the rejection of claim 34 as anticipated by Sladek should be reversed.

With regard to a short message service center that receives a change in location indication message from a message processing platform and sends an SMS message to a subscriber, Sladek does not mention any messages being sent to or from a short message service center. Normally, a short message service center must query an HLR to obtain a subscriber's location and only sends SMS messages when instructed to do so by a sending subscriber.

With regard to the telecommunications network element, the message processing platform, and the short message service center performing the functions of claim 34 automatically in response to a change in location of a subscriber, the only example in Sladek of a text message being delivered to a subscriber requires that the subscriber place a call (see column 29, lines 35-37 of Sladek.) Requiring the receiving subscriber to place a call in order to trigger message delivery is not automatic SMS message deliver as claimed.

Thus, for these reasons, it is respectfully submitted that the rejection of claim 34 as anticipated by Sladek should be reversed.

viii. Argument for dependent claims 35, 36, 39, 44, and 67

Claims 35, 36, 39, 44, and 67 depend from and further limit claim 34. Accordingly, for the same reasons stated above with regard to claim 34, it is respectfully submitted that the rejection of these claims should be reversed.

Moreover, claim 67 is additionally patentable over Sladek because claim 67 recites that the message processing platform is adapted to identify a sequence of a MAP update location request message, a MAP insert subscriber data message, and a MAP update location response message relating to a change in location of the particular mobile subscriber. As stated above, Sladek does not disclose identifying any sequences of messages. The only messages identified in the portions of Sladek cited by the Examiner with regard to the message correlation step are the REGNOT and the LOCREQ messages. These messages are treated individually and are not correlated

with any other messages. Accordingly, for this additional reason, the rejection of claim 67 as anticipated by Sladek should be reversed.

ix. Argument for independent claim 45

The rejection of independent claim 45 as anticipated by Sladek should be reversed because Sladek fails to disclose (1) a telecommunications network element that receives a plurality of mobile call signaling messages and screens mobile call signaling messages exchanged between an HLR and a VLR that relate to changes in location of mobile subscribers, (2) a message processing platform associated with a telecommunications network element that correlates screened mobile call signaling messages to identify call signaling messages and a dialogue between the HLR and the VLR related to a change in location of the particular mobile subscriber, that generates an SMS message intended for the particular mobile subscriber based on the correlated messages or (3) a system where a telecommunications network element and a message processing platform perform their respective functions automatically in response to a change in location of the mobile subscriber.

With regard to a telecommunications network element that screens mobile call signaling messages transmitted between an HLR and a VLR, as stated above, Sladek mentions that the serving system queries an HLR or an SCP to determine services to which a subscriber is entitled. (See column 6, lines 51-56 of Sladek.) Thus, rather than screening mobile call signaling messages, Sladek teaches that an end office is required to invoke the advanced services. Accordingly, Sladek fails to disclose a network

element that screens signaling messages transmitted between an HLR and a VLR as claimed.

With regard to the correlation function performed by the message processing platform, as stated above, Sladek does not disclose, teach, or suggest correlating any messages, not to mention mobile call signaling messages in a dialogue between an HLR and a VLR relating to a change in location of a subscriber. In portions of column 15 cited by the Examiner as anticipating the message correlation steps, Sladek mentions only the REGNOT and LOCREQ messages. These messages are simply sent to an HLR. There is discussion of correlating these messages with each other or with any other messages. Accordingly, for this reason alone, the rejection of claim 45 as anticipated by Sladek should be reversed.

With regard to the generation of an SMS message by the message processing platform based on correlated messages, Sladek fails to disclose any message correlation. Accordingly, Sladek cannot disclose generating an SMS message based on correlated messages.

With regard to the requirement of claim 45 that the message screening, correlation, and SMS message generation be performed automatically in response to a change in location of a subscriber, the only example of delivery of an SMS message in Sladek requires that subscriber place a call. (See column 29, lines 35-50 of Sladek.) Requiring the subscriber to place a call is not automatic SMS generation and delivery as claimed.

Accordingly, for all of these reasons, the rejection of claim 45 as anticipated by Sladek should be reversed.

x. Argument for dependent claims 46-49, 55, 56, and 68

Claims 46-49, 55, 56, and 68 depend from and further limit claim 45. Accordingly, it is respectfully submitted that the rejection of these claims as anticipated by Sladek should be reversed for the same reasons stated above with regard to independent claim 45.

Moreover, claim 68 is additionally patentable over Sladek because Sladek fails to disclose a message processing platform that identifies a sequence of a MAP update location request, a MAP insert subscriber data, and a MAP update location response message relating to a change in location of a subscriber. Sladek does not mention correlating any mobile call signaling messages, not to mention the signaling messages recited in claim 68. Accordingly, for this additional reason, it is respectfully submitted that the rejection of claim 68 as anticipated by Sladek should be reversed.

xi. Argument for independent claim 57

The rejection of independent claim 57 as anticipated by Sladek should be reversed because Sladek fails to disclose (1) a telecommunications network signaling node for receiving mobile call signaling messages and for screening selected mobile application part (MAP) messages exchanged between an HLR and a VLR in response to changes in location of mobile subscribers, (2) a message processing platform operatively associated with a signaling node that receives screened MAP messages, correlates the screened MAP messages in a dialogue between the HLR and the VLR for a change in location of a particular mobile subscriber, generates a change in location indication message based on the MAP messages, or (3) where the signaling node and

the message processing platform perform the functions automatically in response to a change in location of a particular mobile subscriber.

With regard to a telecommunications signaling node that screens mobile call signaling messages transmitted between an HLR and a VLR, as stated above, Sladek teaches that the serving system uses a digits based trigger in order to determine the advanced services to which a subscriber is entitled. The digits based trigger causes the serving system to query either an HLR or an SCP. There is simply no mention of any screening of signaling messages transmitted between an HLR and a VLR, not to mention screening such messages at a telecommunications signaling node. Accordingly, Sladek fails to teach a telecommunications signaling node that screens mobile call signaling messages as claimed.

With regard to the message processing platform that correlates MAP messages in a dialogue between an HLR and a VLR, Sladek fails to disclose any message correlation, not to mention correlating MAP messages in a dialogue between an HLR and a VLR relating to a change in location of a particular mobile subscriber. The only messages discussed in the portion of Sladek cited by the Examiner with regard to the message correlation step are the REGNOT and LOCREQ messages. The REGNOT message is disclosed as being sent to the HLR to update the subscriber's profile in the HLR. The LOCREQ message is disclosed in Sladek as being sent by the serving system to the HLR to obtain the subscriber's profile. There is no disclosure that these messages are correlated with each other or with any other messages. Accordingly, for this reason alone, the rejection of claim 57 as anticipated by Sladek should be reversed.

With regard to the generation of a change in location indication message based on the correlated MAP messages, because Sladek fails to disclose correlating any messages, Sladek cannot disclose a change in location indication message based on correlated MAP messages.

With regard to the requirement that the signaling node and the message processing platform perform the message correlation and change in location indication message generation automatically in response to a change in location, Sladek fails to disclose a message processing platform that performs either of these steps, not to mention performing such depths automatically. As stated above, the only action that Sladek discloses as being triggered by a change in subscriber location is the updating of a subscriber's stored service profile (See column 24, lines 3-12 of Sladek.).

Accordingly, for all of these reasons, it is respectfully submitted that the rejection of claim 57 as anticipated by Sladek should be reversed.

xii. Argument for dependent claims 58, 59, 63, and 69

Claims 58, 59, 63, and 69 depend from and further limit claim 57. Accordingly, for the same reasons stated above with regard to claim 57, it is respectfully submitted that the rejection of these claims should be reversed.

Moreover, claim 58 is additionally patentable over Sladek because claim 58 recites that the message processing platform sends the change in location indication message to a short message service center. Sladek does not even mention a short message service center, not to mention automatically sending a change in location indication message to a short message service center in response to a change in

location of a mobile subscriber. As stated above, the only action that Sladek discloses as being triggered by a change in subscriber location is the updating of a subscriber's stored service profile (See column 24, lines 3-12 of Sladek). Accordingly, for this additional reason, the rejection of claim 58 as anticipated by Sladek should be reversed.

Claim 63 is additionally patentable over Sladek because claim 63 recites that the telecommunications network element that screens the mobile call signaling messages is a signal transfer point. The only function disclosed in Sladek as being performed by a signal transfer point is message routing. (See column 14, lines 2-5 of Sladek.) Accordingly, for this additional reason, the rejection of claim 63 as anticipated by Sladek should be reversed.

Claim 69 is additionally patentable over Sladek because claim 69 recites that the message processing platform identifies a sequence of a MAP update location request, a MAP insert subscriber data, and a MAP update location response message relating to a change in location of a particular mobile subscriber. According to Sladek, individual messages, such as LOCREQ and REGNOT, are sent to HLRs. There is no disclosure of correlating these messages with each other or with any other messages. Accordingly, for this additional reason, the rejection of claim 69 as anticipated by Sladek should be reversed.

B. Rejection of claims 5, 6, 9, 11, 18, 19, 22, 24, 41-44, 53, and 54 as unpatentable over Sladek in view of Baker

The rejection of these claims as unpatentable over Sladek in view of Baker should be reversed because Sladek and Baker fail to teach or suggest one or more of

the elements of the corresponding independent claims. For example, claims 5, 6, 9, and 11 depend from independent claim 1; claims 18, 19, 22, and 24 depend from independent claim 14, claims 41-47 depend from independent claim 44; and claims 53 and 54 depend from independent claim 45. As described above with regard to the corresponding independent claims, Sladek fails to teach or suggest automatically sending an SMS message to a mobile subscriber in response to a change in location of the mobile subscriber, screening mobile call signaling messages transmitted between an HLR and a VLR, or correlating mobile call signaling messages automatically in response to a change in location of a mobile subscriber. Baker likewise lacks such teaching or suggestion. Baker requires a subscriber to dial a special phone number in order to receive messages from WSN 301. For example Baker states:

In cellular or mobility networks of the present invention, the distribution process is triggered when subscribers visit a retail location and dial a predefined, advertised number using a radio telephone. (Emphasis added.) (See column 2, lines 19-23 of Baker).

Thus, from this passage, rather than teaching a system that automatically generates an SMS message, Baker teaches a system that requires the subscriber to dial a telephone number in order to receive advertisements. There is no mention of message screening or automatic SMS message generation as claimed. Thus, it is respectfully submitted that the rejection of these claims is unpatentable over Baker in view of Sladek should be reversed.

With regard to message correlation, as stated above with regard to the corresponding independent claims, Sladek fails to disclose correlating any messages.

Baker likewise fails to teach any such correlation. As described above, Baker relies on the subscriber to dial a predetermined number in order to receive a text message (see column 7, lines 13-16 of Baker.) There is no teaching or suggestion of correlating messages that relate to a change in location of a subscriber or automatically performing such correlation. Accordingly, for this additional reason, the rejection of claims 5, 6, 9, 11, 18, 19, 22, 24, 41-44, 53, and 54 as unpatentable over Sladek in view of Baker should be reversed.

C. Rejection of claims 10, 23, and 28-31 as unpatentable over Sladek in view of Jung

The rejection of these claims as unpatentable over Sladek in view of Jung should be reversed because Sladek and Jung fail to teach or suggest one or more elements of the corresponding independent claims. For example, claim 10 depends from independent claim 1, claim 23 depends from independent claim 14, and claims 28-37 depend from independent claim 26. As described above with regard to the corresponding independent claims, Sladek fails to teach or suggest screening, at telecommunications network element, messages transmitted between an HLR and a VLR relating to changes in location of mobile subscribers correlating call signaling messages to a change in location of a particular mobile subscriber. Jung likewise lacks such teaching or suggestion. For example, Jung states:

Protocol monitoring devices **18** and **19** are used to monitor all transactions from the mobile telecommunications network to the international telecommunications network having CCS7 signaling. (Emphasis added.) (See page 4 of the English translation of Jung).

From this passage, Jung teaches that all transactions are received by protocol monitors **18** and **19**. There is no mention of screening messages that relate to changes in location of mobile subscribers or correlating messages that relate to a change in location of a particular mobile subscriber.

Moreover, Jung fails to disclose any screening being performed at a telecommunications network element. In contrast, Jung discloses that messages are monitored using protocol monitors **18** and **19** and a computer **21** that are independent of the mobile communications network. (See page 5, lines 19-24 of English translation of Jung.) Thus, Jung fails to disclose message screening at a telecommunications network element as claimed.

Because Jung and Sladek fail to teach or suggest screening or correlating messages as claimed, the rejection of claims 10, 23, and 28-31 as unpatentable over Sladek in view of Jung should be reversed.

D. Rejection of claim 33 as unpatentable over Sladek in view of Brown

The rejection of claim 33 as unpatentable over Sladek in view of Brown should be reversed because Sladek and Brown fail to teach or suggest one or more elements of the corresponding independent claim. For example, claim 33 depends from claim 26. As stated above with regard to claim 26, Sladek fails to teach or suggest message screening, message correlation, or generation of mobile call location update records as claimed in claim 26. Brown likewise lacks such teaching or suggestion. Brown is directed to a system that updates network topology information based on location update messages. For example, Brown states:

Information regarding the topology of cells and location areas, such as which cells belong to which location areas and which location areas are adjacent, can be assembled from a structural configuration of the system. However, this requires operator action with a result that there is no guarantee that the assembled information is up to date; in particular, changes made to the system may not be incorporated in the assembled information, or more likely, there will be a significant delay in introducing this information. (See column 1, lines 42-51 of Brown.)

From this passage, Brown indicates that a problem is maintaining network topology information in a mobile communications network. In order to solve this problem, Brown discloses deriving network topology information from location update messages. For example, Brown states that the method includes monitoring location update messages to extract location area related data from at least some of the messages and combining the location area data to produce location area related information. (See column 2, lines 14-24 of Brown.) Thus, Brown is directed to a system with updates network topology information based on location update messages. There is absolutely no teaching or suggestion of correlating mobile call signaling messages that relate to a change in location of a particular mobile subscriber or generating a mobile call location update record for the particular as claimed in claim 26. In contrast, Brown is directed to updating a network topology map without creating any individual subscriber records. Accordingly, because the combination of Brown and Sladek fails to teach all of the elements in claim 26, from which claim 33 depends, it is respectfully submitted that the rejection of claim 33 as unpatentable over Sladek in view of Brown should be reversed.

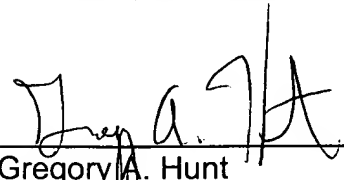
For the foregoing reasons, the Examiner's rejections of claims 1-36, 39-49, and 53-69 should be reversed.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: January 31, 2005

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VIII. Claims Appendix

1. A method for automatically generating and sending a short message service (SMS) message to a subscriber in a mobile communications network in response to a change in location of the subscriber, the method comprising:
  - (a) receiving, at a telecommunications network element, a plurality of mobile call signaling messages;
  - (b) screening, at the telecommunications network element, mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) that relate to changes in location of mobile subscribers;
  - (c) correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber;
  - (d) generating a change in location indication message based on parameters extracted from the correlated mobile call signaling messages;
  - (e) sending the change in location indication message to a short message service center (SMSC);
  - (f) in response to receiving the change in location indication message by SMSC, generating the SMS message intended for the particular mobile subscriber; and

- (g) sending the SMS message to the mobile subscriber, wherein performing steps (a)-(g) includes performing steps (a)-(g) automatically in response to the change in location of the particular mobile subscriber.
2. The method of claim 1 wherein receiving a plurality of mobile call signaling messages includes receiving a mobile application part (MAP) update location request message.
  3. The method of claim 1 wherein receiving a plurality of mobile call signaling messages includes receiving a mobile application part (MAP) insert subscriber data message.
  4. The method of claim 1 wherein receiving a plurality of mobile call signaling messages includes receiving a mobile application part (MAP) update location response message.
  5. The method of claim 1 wherein generating a change in location indication message includes generating the change in location indication message using a home location register Identifier (HLR ID) identifying an HLR of the particular mobile subscriber.
  6. The method of claim 1 wherein generating a change in location indication message includes generating the change in location indication message using a visitor location register identifier (VLR ID) identifying a VLR currently serving the particular mobile subscriber.
  7. The method of claim 1 wherein generating a change in location indication message includes generating the change in location indication message using a

- mobile identification number (MIN), mobile directory number (MDN) or mobile subscriber ISDN (MSISDN) number.
8. The method of claim 1 wherein generating a change in location indication message includes generating the change in location indication message using an international mobile station identity (IMSI) number.
  9. The method of claim 1 wherein generating a change in location indication message includes generating the change in location indication message using an MSC ID.
  10. The method of claim 1 wherein generating a change in location indication message includes generating a change in location indication message including a date and a time.
  11. The method of claim 1 wherein generating an SMS message includes generating a message welcoming or greeting the particular mobile subscriber or other type of message that a mobile communications network operator desires to send to a subscriber.
  12. The method of claim 1 wherein generating an SMS message includes generating at least one of: an advertisement, a weather report, hotel information, and other information that a mobile communications network operator wishes to send to the particular mobile subscriber.
  13. The method of claim 1 wherein correlating the mobile call signaling messages includes correlating the mobile call signaling messages based on a Dialogue ID in the mobile call signaling messages.

14. A method for automatically generating and sending a short message service (SMS) message to a subscriber in a mobile communications network in response to a change in the location of the subscriber, the method comprising:
  - (a) receiving a plurality of mobile call signaling messages at a telecommunications network element;
  - (b) screening, at the telecommunications network element, mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) that relate to changes in location of mobile subscribers;
  - (c) correlating the screened mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber;
  - (d) combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber; and
  - (e) sending the SMS message to the mobile subscriber, wherein performing steps (a)-(e) includes performing steps (a)-(e) automatically in response to the change in location of the particular mobile subscriber.
15. The method of claim 14 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a mobile application part (MAP) update location request message.

16. The method of claim 14 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a mobile application part (MAP) Insert subscriber data message.
17. The method of claim 14 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a mobile application part (MAP) update location response message.
18. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message includes using an HLR identifier to generate the SMS message.
19. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber includes using a VLR identifier extracted from the correlated mobile call signaling messages to generate the SMS message.
20. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber includes using at least one of a mobile identification number (MIN), a mobile directory number (MDN), and a mobile subscriber ISDN (MSISDN) number to generate the SMS message.
21. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber includes using an international

- mobile station identity (IMSI) number extracted from the correlated mobile call signaling messages to generate the SMS message.
22. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber includes using an MSC ID extracted from the correlated mobile call signaling messages to generate the SMS message.
  23. The method of claim 14 wherein combining parameters extracted from the correlated mobile call signaling messages to generate an SMS message intended for the particular mobile subscriber includes using a date and a time derived from the mobile call signaling messages to generate the SMS message.
  24. The method of claim 14 wherein the SMS message is a message welcoming or greeting the particular mobile subscriber, or other message that a mobile communications network operator desires to send to the particular mobile subscriber.
  25. The method of claim 14 wherein correlating the mobile call signaling messages includes correlating the mobile call signaling messages based on a Dialogue ID in the mobile call signaling messages.
  26. A method for correlating mobile call signaling messages transmitted between a home location register (HLR) and a visitor location register (VLR) in response to a change in location of a mobile subscriber, the method comprising:

- (a) receiving, at a telecommunications network element, a plurality of mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR);
  - (b) screening, at the telecommunications network element, from the mobile call signaling messages, messages that relate to changes in location of mobile subscribers;
  - (c) correlating the screened mobile call signaling messages based on one or more parameters in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber; and
  - (d) generating mobile call location update records based on the correlated mobile call signaling messages, wherein performing steps (a)-(d) includes performing steps (a)-(d) automatically in response to the change in location of the particular mobile subscriber.
27. The method of claim 26 wherein correlating the screened mobile call signaling messages based on one or more parameters in the mobile call signaling messages includes correlating the mobile call signaling messages based on a dialogue ID contained in the mobile call signaling messages.
28. The method of claim 26 comprising comparing an HLR ID and a VLR ID in each screened mobile call signaling message and determining whether a subscriber is roaming in a foreign network in which the subscriber has not previously registered with a VLR based on the comparison.

29. The method of claim 28 comprising, in response to determining that the subscriber is roaming in a foreign network in which the subscriber is not previously registered with a VLR, continuing correlation processing for the mobile call signaling messages.
30. The method of claim 28 comprising, in response to determining that the subscriber is not roaming in a foreign network in which the subscriber is not previously registered with a VLR, stopping correlation processing for the mobile call signaling messages.
31. The method of claim 26 wherein storing the mobile call signaling messages in mobile call location update records comprises, in response to receiving each of the mobile call signaling messages:
  - (a) determining whether a mobile call location update record is active;
  - (b) in response to determining that a mobile call location update record is active for the message, storing the message in the mobile call location update record; and
  - (c) in response to determining that a mobile call location update record is not active for the message, creating a new mobile call location update record and storing the message therein.
32. The method of claim 26 comprising, in response to completing a mobile call location update record, generating a change in location indication message and sending the change in location indication message to a short message service center.

33. The method of claim 26 comprising for each mobile call change in location update record, in response to failing to receive all of the mobile call signaling messages to complete the mobile call change in location update record within a predetermined time period, discarding the mobile call change in location update record.
34. A system for automatically generating and sending a short message service (SMS) message to a subscriber in a mobile communications network in response to a change in the location of the subscriber, the system comprising:
  - (a) a telecommunications network element for receiving a plurality of mobile call signaling messages and for screening mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) relating to changes in location of mobile subscribers;
  - (b) a message processing platform operatively associated with the telecommunications network element for receiving the screened mobile call signaling messages, for correlating the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR related to a change in location of a particular mobile subscriber, and for generating a change in location indication message based on the correlated mobile call signaling messages; and
  - (c) a short message service center (SMSC) for receiving the change in location indication message from the message processing platform and for generating an SMS message intended for the particular mobile subscriber, wherein the telecommunications network element, the message

processing platform, and the short message service center are adapted to respectively perform the functions in elements (a)-(c) automatically in response to the change in location of the particular mobile subscriber.

35. The system of claim 34 wherein the telecommunications network element comprises a signal transfer point (STP).
36. The system of claim 34 wherein the telecommunications network element comprises a signaling gateway routing node.
39. The system of claim 34 wherein the telecommunications network element comprises a visitor location register (VLR).
40. The system of claim 34 wherein the telecommunications network element comprises a home location register (HLR).
41. The system of claim 34 wherein the owners or operators of an HLR in a home network of the particular mobile subscriber and the telecommunications network element are not the same.
42. The system of claim 34 wherein the message processing platform is contained within the telecommunications network element.
43. The system of claim 34 wherein the message processing platform is an external computing workstation coupled to the telecommunications network element.
44. The system of claim 34 wherein the message processing platform includes a message correlator/generator for correlating the mobile call signaling messages and for generating the change in location indication message.

45. A system for automatically generating and sending a Short Message Service (SMS) message to a subscriber in a mobile communications network in response to a change in the location of the subscriber, the system comprising:
- (a) a telecommunications network element for receiving a plurality of mobile call signaling messages and for screening mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) that relate to changes in location of mobile subscribers; and
  - (b) a message processing platform associated with the telecommunications network element for correlating the screened mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR related to a change in location of the particular mobile subscriber and for generating a short message service (SMS) message intended for the particular mobile subscriber based on the correlated messages, wherein the telecommunications network element and the message processing platform are adapted to respectively perform the functions in elements (a) and (b) automatically in response to the change in location of the particular mobile subscriber.
46. The system of claim 45 wherein the telecommunications network element comprises a signal transfer point (STP).
47. The system of claim 45 wherein the telecommunications network element comprises a signaling gateway.
48. The system of claim 45 wherein the telecommunications network element comprises a visitor location register (VLR).

49. The system of claim 45 wherein the telecommunications network element comprises an HLR.
52. The system of claim 45 wherein the owners or operators of an HLR in a home network of the particular mobile subscriber and the telecommunications network element are not the same.
53. The system of claim 45 wherein the message processing platform is contained within the telecommunications network element.
54. The system of claim 45 wherein the message processing platform is an external computing workstation coupled to the telecommunications network element.
55. The system of claim 45 wherein the message processing platform includes a message correlator/generator for correlating the MAP messages and for generating the change in location indication messages.
56. The system of claim 45 wherein the message correlator/generator is adapted to correlate the MAP messages based on a Dialogue ID in the MAP messages.
57. A system for generating a message in response to a change in location of a mobile subscriber, the system comprising:
  - (a) a telecommunications network signaling node for receiving mobile call signaling messages and for screening selected mobile application part (MAP) messages exchanged between a home location register (HLR) and a visitor location register (VLR) in response to changes in location of mobile subscribers; and
  - (b) a message processing platform operatively associated with the signaling node for receiving the screened MAP messages, correlating the screened

MAP messages to identify MAP messages in a dialogue between the HLR and the VLR for a change in location of a particular mobile subscriber, and generating a change in location indication message based on the correlated MAP messages, wherein the telecommunications signaling node and the message processing platform are adapted to respectively perform the functions in elements (a) and (b) automatically in response to the change in location of the particular mobile subscriber.

58. The system of claim 57 wherein the message processing platform is adapted to send the change in location indication message to a short message service center.
59. The system of claim 57 wherein the message processing platform is adapted to send the change location update message to a presence server.
60. The method of claim 1 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a plurality of mobile call signaling messages at a signal transfer point and routing the mobile call signaling messages to their intended destinations.
61. The method of claim 14 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a plurality of mobile call signaling messages at a signal transfer point and routing the mobile call signaling messages to their intended destinations.
62. The method of claim 26 wherein receiving a plurality of mobile call signaling messages at a telecommunications network element includes receiving a

- plurality of mobile call signaling messages at a signal transfer point and routing the mobile call signaling messages to their intended destinations.
63. The system of claim 57 wherein the telecommunications network signaling node comprises a signal transfer point for routing the mobile call signaling messages to their intended destinations.
64. The method of claim 1 wherein correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR includes correlating the mobile call signaling messages to identify a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message that relate to a change in location of the particular mobile subscriber.
65. The method of claim 14 wherein correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR includes correlating the mobile call signaling messages to identify a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message that relate to a change in location of the particular mobile subscriber.
66. The method of claim 26 wherein correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR includes correlating the mobile call signaling messages to

identify a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message that relate to a change in location of the particular mobile subscriber.

67. The system of claim 34 wherein the message processing platform is adapted to identify a sequence of a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message relating to a change in location of the particular mobile subscriber.
68. The system of claim 45 wherein the message processing platform is adapted to identify a sequence of a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message relating to a change in location of the particular mobile subscriber.
69. The system of claim 57 wherein the message processing platform is adapted to identify a sequence of a mobile application part (MAP) update location request message, a MAP insert subscriber data message, and a MAP update location response message relating to a change in location of the particular mobile subscriber.

Serial No.: 09/649,461

IX.    Evidence Appendix

None

Serial No.: 09/649,461

X.    Related Proceedings Appendix

None